

its depression below the dry bulb are the fundamental data for all investigations into the relation between human physiology and the atmosphere. In order to present a monthly summary of the atmospheric conditions from a hygienic and

physiological point of view, Table VIII has been prepared, showing the maximum, minimum, and mean readings of the wet-bulb thermometer at 8 a. m. and 8 p. m., seventy-fifth meridian time.

PRECIPITATION.

[In inches and hundredths.]

The *distribution of precipitation* for the month of February, 1895, as determined by reports from about 2,500 stations, is exhibited on Chart III. The numerical details are given in Tables I, II, and III. The precipitation was greatest, 8 to 10 inches, in the northwest corner of Washington, and least, averaging less than 1 inch, throughout the watersheds of the Ohio, Missouri, and Upper Mississippi.

The *diurnal variation* is shown by Table XII, which gives the total precipitation for each hour of seventy-fifth meridian time, as deduced from self-registering gauges kept at about 43 regular stations of the Weather Bureau; of these 37 are float gauges and 6 are weighing gauges.

The *normal precipitation* for each month is shown in the Atlas of Bulletin C, entitled "Rainfall and Snow of the United States, compiled to the End of 1891, with Annual, Seasonal, Monthly, and other Charts."

The *current departures* from the normal precipitation are given in Table I, which shows that precipitation was deficient over nearly the whole of the United States. It was, however, in excess in several small regions, viz: from Port Eads and the coast of Texas over central Texas, eastern New Mexico, Kansas, western Colorado, Nebraska, and South Dakota as far north as Pierre; in Montana, Assiniboia, and Alberta as far north as Edmonston; on the south Atlantic coast from Charleston to Jacksonville, and in isolated places such as Tatoosh Island, Carson City, Fresno, Father Point, Chatham, Titusville, and Key West.

The *average departure* for each district is also given in Table I. By dividing these by the respective normals the following corresponding percentages are obtained (precipitation is in excess when the percentages of the normal exceeds 100):

Above the normal: Key West, 152; northern slope, 141; middle slope, 181; Abilene (southern slope), 207.

Below the normal: New England, 28; middle Atlantic, 40; south Atlantic, 89; east Gulf, 62; west Gulf, 64; Ohio Valley and Tennessee, 24; Lower Lake, 41; Upper Lake, 50; North Dakota, 67; Upper Mississippi, 26; Missouri Valley, 39; southern plateau, 54; middle plateau, 92; northern plateau, 80; north Pacific, 56; middle Pacific, 54; southern Pacific, 39.

The *years of greatest and least precipitation* are given in the REVIEW for February, 1894. The precipitation for the current month was the least on record for the month of February at most regular Weather Bureau stations in the Atlantic States and Ohio Valley, Missouri, Arkansas, and Louisiana.

The *total accumulated monthly departures* from normal precipitation from the beginning of the year to the end of the current month are given in the second column of the following table; the third column gives the ratio of the current accumulated precipitation to its normal value.

Districts.	Accumulated departures.	Accumulated precipitation.	Districts.	Accumulated departures.	Accumulated precipitation.
	Inches.	Per ct.		Inches.	Per ct.
New England	3.10	63	South Atlantic	1.50	119
Middle Atlantic	1.00	86	Key West	2.10	156
East Gulf	2.20	80	Northern slope	0.30	128
West Gulf	2.60	65	Middle slope	0.30	120
Ohio Valley and Tennessee	2.40	73	Southern slope (Abilene)	1.40	168
Lower Lakes	1.40	74	Middle plateau	1.00	135
Upper Lakes	0.40	90	Middle Pacific	0.80	108
North Dakota	0.20	84	South Pacific	2.30	162
Upper Mississippi	1.80	53	Southern plateau	0.00	100
Missouri Valley	1.30	54			
Northern plateau	1.40	58			
North Pacific	4.00	78			

Details as to excessive precipitation are given in Tables XIII and XIV.

The total snowfall at each station is given in Table II.

The accumulation of snow in the Sierra Nevada range on the route of the Central Pacific Railroad was very remarkable. The snow was 22 feet deep on the summit level at the beginning of the month, and drifts of 40 and 60 feet covered the fir trees on the mountain slopes. The heaviest snow was between Blue Canyon and Emigrant Gap, and snowslides were imminent. The map of normal distribution of annual snowfall seems to show that the maximum fall occurs along the Sierra opposite and a little north of San Francisco, as though the upper currents of air from the southwest, passing through the depression in the Coast Range near that city, carried the moisture northeastward to the neighborhood of Emigrant Gap.

SUNSHINE AND CLOUDINESS.

The quantity of sunshine, and therefore of heat, received by the atmosphere, as a whole, is very nearly constant from year to year, but the proportion received by the surface of the earth depends largely upon the absorption by the atmosphere, and varies with the distribution of cloudiness. The sunshine is now recorded automatically at 18 regular stations of the Weather Bureau by its photographic, and at 26 by its thermal effects. The results are given in Table XI for each hour of local, not seventy-fifth meridian, time. The cloudiness is determined by numerous personal observations at all stations during the daytime, and is given in the column of "average

cloudiness" in Table I; its complement or clear sky is given in the last column of Table XI.

COMPARISON OF SUNSHINE AND CLEAR SKY.

The sunshine registers give the *duration* of direct sunshine whence the percentage of possible sunshine is derived; the observer's personal estimates give the percentage of *area* of clear sky. It should not be assumed that these numbers should agree, and for comparative purposes they have been brought together, side by side, in the following table, from which it appears that, in general, the instrumental record of percentages of duration of sunshine is almost always larger than the observer's personal estimates of percentages of area